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Run
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Maximum Match 100%
Listing first 45 summaries
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Perfect score:
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Maximum DB
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1: /SIDSB/gcgdata,
2: /SIDSB/gcgdata,
3: /SIDSB/gcgdata,
4: /SIDSB/gcgdata,
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: /SIDSB/gcgdata/geneseq/geneseqn/NA1980.DAT:*,
0: /SIDSB/gcgdata/geneseq/geneseqn/NA1980.DAT:*,
1: /SIDSB/gcgdata/geneseq/geneseqn/NA1980.DAT:*,
2: /SIDSB/gcgdata/geneseq/geneseqn/NA1991.DAT:*,
2: /SIDSB/gcgdata/geneseq/geneseqn/NA1991.DAT:*,
3: /SIDSB/gcgdata/geneseq/geneseqn/NA1992.DAT:*,
4: /SIDSB/gcgdata/geneseq/geneseqn/NA1993.DAT:*,
5: /SIDSB/gcgdata/geneseq/geneseqn/NA1995.DAT:*,
6: /SIDSB/gcgdata/geneseq/geneseqn/NA1995.DAT:*,
7: /SIDSB/gcgdata/geneseq/geneseqn/NA1996.DAT:*,
8: /SIDSB/gcgdata/geneseq/geneseqn/NA1999.DAT:*,
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Copyright (c) 1993 - 2000 Com
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GGGGUCCUGGAG 12
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46.600 Million cell updates/sec
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pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

	11	10	9	&	7	6	5	c 4	с 3	c 2	1	Result No.
	12	12	12	12	12	12	12	12	12	12	12	Score
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	Query Match
	17	17	16	16	16	16	15	14	12	12	12	% Query Match Length DB
	15	15	21	18	15	15	15	15	20	20	18	BG
	AAQ65126	AAQ65142	AAA13439	AAT90622	AAQ65125	AAQ65141	AAQ65140	AAQ70177	AAX24037	AAZ23540	AAT80257	ID
,	Antisense oligonuc	Antisense oligonuc	Hepatitis C virus	Hepatitis C virus	Antisense oligonuc	Antisense oligonuc	Antisense oligonuc	Hepatitis C virus	Ruthenium-labelled	HCV wild type geno	Oligo HCV82 used i	Description

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118 118 118 118 118 118 118 118 118 118	115
AAT80355 AAT80356 AAT80357 AAT80352 AAT80352 AAT80260 AAT80260 AAT80261 AAT80264 AAT80264 AAT80251 AAT80251 AAT80252 AAT80251 AAT80253 AAT80254 AAT80254 AAT80254 AAT80254 AAT80251 AAT80254 AAT80251 AAT80254 AAT80255 AAT80255 AAT80256 AAT802509 AAT805099 AAT805099 AAT805099 AAT8055099 AAT8055100 AAT8055100 AAT8055100 AAT8055100 AAT8055100 AAT8055100	AAQ65111 AAQ65143 AAQ65127 AAQ65112 AAQ65112 AAQ65098 AAT80354
Oligo HCV-215, tar Oligo HCV-219, tar Oligo HCV-197, tar Oligo HCV-197, tar Oligo HCV-205, tar Oligo HCV90, targe Oligo HCV91, targe Oligo HCV91, targe Oligo HCV94, targe Oligo HCV94, targe Oligo HCV95, targe Oligo HCV95, targe Oligo HCV53, targe Oligo HCV53, targe Oligo HCV54, targe Oligo HCV56, targe Oligo HCV50, targe	ense oligo ense oligo ense oligo ense oligo ense oligo HCV-209,

ALIGNMENTS

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RESULT
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modified_base
                                                                                                                                                                                                         04-JUN-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Complementary; 5' untranslated region; UTR; hepatitis C virus; HCV; inhibition; replication; expression; detection; chronic hepatitis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Oligo HCV82 used in luciferase assay.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAT80257 standard; DNA; 12 BP.
(HOFF ) HOFFMANN LA ROCHE & CO AG (HYBR-) HYBRIDON INC.
                                                                                                                          06-JUN-1995;
                                                                                                                                                                                                                                                                                                12-DEC-1996.
                                                                                                                                                                                                                                                                                                                                                                                   W09639500-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 modified_base
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        acute hepatitis; hepatocarcinoma; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      15-OCT-1997
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                                                                                                                          95US-0471968
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/note= "Optionally 2'OMe modified"
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RESULT 2
AAZ23540/c
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Best Local S
Matches 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The sequences given in AAT80211-382 represent synthetic oligonucleotides which are complementary to a portion of the 5' untranslated region (UTR) of hepatitis C virus (HCV). These sequences may be used in a pharmaceutical composition for the control or prevention of HCV infection. They may be used to inhibit replication or expression of HCV or for detecting the presence of HCV in a sample. They may be used to inhibit HCV replication in a cell and are therefor useful in the treatment of HCV infections such as chronic and acute hepatitis and hepatocarcinoma. This oligo was used in a luciferase assay to determine whether it binds sucessfully to its target.
                                                                                                                                                                                                                                                                                                  Assay; amp
cellular;
This invention describes a novel assay for a nucleic acid comprises: (a) generating amplification products from a fragment of the nucleic acid, (b) contacting the amplification products with a probe; and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Claim 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          and hepato-carcinoma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      oligo:nucleotide(s) coused in the treatment
                                                                                                                                                                                                                                                                                                                                   HCV wild type genome probe.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 1997-043122/04
                                                                                                                                                                          02-APR-1998;
                                                                                                                                                                                                                      07-OCT-1999
                                                                                                                                                                                                                                             DE19814828-A1
                                                                                                                                                                                                                                                                 Synthetic.
Hepatitis C virus
                                                                                                                                                                                                                                                                                                                                                              21-DEC-1999
                                                                                                                                                                                                                                                                                                                                                                                                         AAZ23540 standard; DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
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                                              Example
                                                                               Nucleic acid amplification assay
                                                                                                                                                   (HOFF )
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            l Similarity
12; Conserv
                                                                                                                                                                                                                                                                                                              amplification; hybridisation; probe; detection; viral; bacterial;
                                             1;
                                                                                                                            ú
                                                                                                                                                   ROCHE DIAGNOSTICS GMBH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     12 BP; 1 A; 2 C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Page 31; 100pp; English.
                                                                                                                                                                                                                                                                                                    yeast;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Goodchild
                                             Page 21;
                                                                                                                             Haberhausen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
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                                                                                                                                                                          98DE-1014828.
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                                                                                                                                                                                                                                                                                                   fungal; primer; ss
                                                                    fungal
                                           28pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      complementary to
nt and detection
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РС,
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Walther DM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     7 G;
                                              German
                                                                                                                            Batz H,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0;
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2 U; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             red. No. le+03;
Mismatches
                                                                               for
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      o HCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Kilkuskie RE;
Wolfe JL;
                                                                             detecting viral, bacterial
                                                                                                                             0erum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       HCV 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 18;
                                                                                                                             H;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      untranslated region infection, esp. hepa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      esp. hepatitis
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             nucleic
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RESULT 3
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Best Local
                                                                                                         This invention describes a method for the detection of nucleic acid which comprises amplification and reaction of the amplicon with a probe. The method is used to detect nucleic acid e.g. for medical or forensic diagnosis, in food and environmental analysis, in plant protection and veterinary medicine, e.g. for detecting human immune deficiency virus, hepatitis B or C viruses, or Chlamydia, in blood screening. The method provides target-dependent, exponential amplification for highly specific
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           yeast or fungal nucleic acids in human, animal, bacterial, plant, or fungal samples, e.g. feces, smears, cell suspensions, cultures tissue, cell or liquid biopsy samples. This sequence represents a probe used in the method of the invention.
detected in a standardized reaction format using partly the same primers and probes. Only small amplicons are produced (requiring short amplification cycles), there is no competition/displacement between the short counter-strand of the amplicon and the detection probe, and
                                                             and sensitive, reproducible and quantitative detection of one or more nucleic acids (single or double stranded). The design of primers and probes is sufficiently flexible to allow many nucleic acids to be
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Amplification; medical; forensic; diagnosis; food analysis; blenvironmental analysis; plant protection; veterinary medicine; human immune deficiency virus; hepatitis B; hepatitis C; Chlam screening; PCR primer; detection; probe; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (c) detecting hybridization between the amplification product
probe. The assay is useful for detection of viral, bacterial,
                                                                                                                                                                                                                                                                  protection
                                                                                                                                                                                                                                                                                            Detecting nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                      04-NOV-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                   04-NOV-1997;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ruthenium-labelled DNA probe
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                                                                                                                                                                                                                                  Example 1; Page 18; 22pp;
                                                                                                                                                                                                                                                                                                                            WPI; 1999-278780/24
                                                                                                                                                                                                                                                                                                                                                          (HOFF )
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                                                                                                                                                                                                                                                                                                                                                          ROCHE DIAGNOSTICS
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                                                                                                                                                                                                                                                                              diagnosis,
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/note= "5'-end labelled with ruthenium""
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                                                                                                                                                                                                                                                                              cid by generating short amplicons and probing
food and environmental analysis and plant
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                                                                                                                                                                                                                                    German.
                                                                                                                                                                                                                                                                                                                                                          GMBH
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2; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        <u>ب</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1e+03;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               food analysis; blood;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Chlamydia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0,
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14 GGGGTCCTGGAG

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RESULT 4
AAQ70177/c
ID AAQ701
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Best Local S
Matches 10
                                   Query Match
Best Local S
Matches 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           specificity is high because the relative proportion of the internal detection region is increased with respect to the total amplicon length, allowing better differentiation between (viral) subtypes. Also short amplicons are less likely to undergo non-specific hybridization, so background is low, and short RNA sequences are more stable, with reduced tendency to form secondary structures. AAX23968-69 and AAX24035-37 are
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Hepatitis C virus; HCV; non-A, non-B he antisense oligonucleotide; translation 5'-untranslated region; ss.
                                                                                                                     Oligonucleotides which are complementary to part of the hepatitis C virus genomic or messenger RNA are claimed. AAQ70177 is a preferred target sequence which is present in the 5'-UTR of the HCV genome.
                                                                                                                                                                                                          Anti:sense oligo:nucleotide(s) complementary to hepatitis {\tt C} viral genome - useful for inhibiting HCV replication, to treat related
                                                                                                                                                                                                                                                                                                                                                        10-SEP-1992;
14-APR-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                             WO9405813-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Hepatitis C virus 5'-UTR antisense oligonucleotide target (A)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   04-OCT-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAQ70177;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAQ70177 standard; RNA; 14 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 12
                                                                                                Sequence 14 BP; 2 A; 8 C; 3 G; 1 U; 0 other;
                                                                                                                                                                      Claim 16; Page 71; 91pp; English.
                                                                                                                                                                                                                                             WPI; 1994-101217/12.
                                                                                                                                                                                                                                                                                 Anderson KP,
                                                                                                                                                                                                                                                                                                                     (KAGA )
                                                                                                                                                                                                                                                                                                                                                                                            10-SEP-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                    17-MAR-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Hepatitis C
                                                                                                                                                                                              diseases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               dency to
primers
GGGGUCCUGGAG 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GGGGUCCUGGAG 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GGGGTCCTGGAG 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              l Similarity 83...
10; Conservative
                                                                                                                                                                                                                                                                      ~
                                                                                                                                                                                                                                                                                                                     CHEMO SERO THERAPEUTIC ISIS PHARM INC.
                                                Similarity
                                                                                                                                                                                                                                                                                                         MOCHIDA PHARM CO LTD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Virus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BP; 2 A; 7 C; 2 G; 1 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                and probes used in the method of the invention
                                    Conservative
                                                                                                                                                                                                                                                                      Nakatake
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (first entry)
                                                                                                                                                                                                                                                                                  Eto T,
                                                                                                                                                                                                                                                                                                                                                          92US-0945289.
93JP-0087195.
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                                                100.0%;
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                                                                                                                                                                                                                                                                      Furukawa S, Hamada F,
H, Nishihara T, Nozak
                                    2;
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Pred. N
                                   Score 12; DB 1
Pred. No. 1e+03;
2; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   non-B hepatitis virus; NANBHV;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       inhibition;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1e+03;
                                                                                                                                                                                                                                                                       Nozaki
                                                          DB 15;
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                                                                                                                                                                                                                                                                      Hanecak
C;
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                                                          Length 14;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       therapy;
                                                                                                                                                                                                                                                                                  RC
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RESULT
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                                                                                                                                                                                                                                                                                           This oligonucleotide is an example of a preferred antisense compound i.e. it has a base sequence of 15-30 bases which is included within the 49 bases from G at position 127 to C at position 175 of AAQ64913 and which contains at least 7 bases from C at position 147 to C at position 153. The antisense oligonucleotide is useful for inhibiting translation of HCV genes.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CA2104649-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               25-AUG-1992;
03-MAR-1993;
                                                                                                                                                                                                                                                                                                                                                                                      Anti:sense oligo:nucleotide(s) complementary to the hepatitis virus genome - are useful as antiviral agents
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                21-DEC-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAQ65140;
                                                                                                                                                                                                                                                                         Sequence 15
                                                                                                                                                                                                                                                                                                                                                                 Claim 5; Page 163; 262pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 1994-151836/19.
                                                                                                                                                                                                                                                                                                                                                                                                                                        Honda Y, Seki M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              23-AUG-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  26-FEB-1994.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            therapy; inhibition;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Hepatitis C Virus; Non-A, non-B hepatitis virus;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Antisense oligonucleotide
                  Synthetic
                                               Hepatitis C Virus; Non-A, non-B hepatitis virus; HCV; antisense;
                                                                  Antisense oligonucleotide complementary to Hepatitis C Virus genome
                                                                                       21-DEC-1994
                                                                                                                               AAQ65141 standard; DNA; 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                           (SEKI/)
                                      therapy;
                                                                                                                                                                                                                                  Local
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                                                                                                                                                                                                    1 GGGGUCCUGGAG
                                                                                                                                                   σ
                                                                                                                                                                              ggggtcctggag 15
                                                                                                                                                                                           10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEKI M.
                                                                                                                                                                                                                                   Similarity
                                      inhibition;
                                                                                                                                                                                                                                                                          BP;
                                                                                                                                                                                                                        Conservative
                                                                                       (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                92JP-0248796
93JP-0042736
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A;
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C;
                                     viral protein precursor;
                                                                                                                                                                                                                                   100.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             viral protein precursor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        15
                                                                                                                                                                                                                                  .38;
                                                                                                                                                                                                                                            .08;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            complementary to
                                                                                                                                                                                                                                                                          10 G; 2 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ВÞ
                                                                                                                                                                                                                        ?:
                                                                                                                                                                                                                                   Pred.
                                                                                                                                                                                                                                            Score
                                                                                                                                                                                                                        Mismatches
                                                                                                                                                                                                                         e 12; L.
'\^ 1e+03;
                                                                                                                                                                                                                                   No.
                                                                                                                                                                                                                                           DB 15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Hepatitis C Virus genome.
                                                                                                                                                                                                                        0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       HCV;
                                                                                                                                                                                                                                            Length
                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        antisense;
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CA2104649-A

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Db
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Best Local S
                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   This oligonucleotide is an example of a preferred antisense compount i.e. it has a base sequence of 15-30 bases which is included within the 49 bases from G at position 127 to C at position 15 of AAQ64913 and which contains at least 7 bases from C at position 14 to C at position 153. The antisense oligonucleotide is useful for the contains at least 1 bases from C at position 14 to C at position 153. The antisense oligonucleotide is useful for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     25-AUG-1992;
03-MAR-1993;
        Claim 5;
                                                                                                                         25-AUG-1992;
03-MAR-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Anti:sense oligo:nucleotide(s) complementary to the hepatitis virus genome - are useful as antiviral agents
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Honda Y,
                           Anti:sense oligo:nucleotide(s) complementary to the hepatitis virus genome - are useful as antiviral agents
                                                                                                                                                          23-AUG-1993;
                                                                                                                                                                             26-FEB-1994
                                                                                                                                                                                                  CA2104649-A
                                                                                                                                                                                                                                          therapy; inhibition;
                                                                                                                                                                                                                                                       Hepatitis C
                                                                                                                                                                                                                                                                          Antisense oligonucleotide complementary to Hepatitis
                                                                                                                                                                                                                                                                                                                                         AAQ65125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             inhibiting translation of HCV genes.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (SEKI/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   23-AUG-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        26-FEB-1994
                                                                                                    (SEKI/) SEKI M.
                                                                                                                                                                                                                                                                                                                                                                                           ū
                                                                                                                                                                                                                                                                                                                                                                                                               1 GGGGUCCUGGAG 12
                                                            1994-151836/19
                                                                                                                                                                                                                                                                                                                                                                                          ||||:||:|||||
ggggtcctggag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1994-151836/19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5; Page 163; 262pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                    l Similarity
10; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        16
        Page
                                                                                                                                                                                                                                                                                                                                         standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Seki M,
                                                                                Seki M,
                                                                                                                                                                                                                                                      Virus; Non-A,
                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BP; 2
                                                                                                                                                                                                                                                                                               (first entry)
        156;
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93JP-0042736.
                                                                                                                         92JP-0248796.
93JP-0042736.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A; 2 C; 10 G;
                                                                                                                                                                                                                                                                                                                                         DNA;
        262pp; English
                                                                                 Yamada
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                                                                                                                                                                                                                                                                                                                                                                                                                                               100.0%
                                                                                                                                                                                                                                           viral protein precursor; ss
                                                                                                                                                                                                                                                                                                                                         16 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                         .08;
                                                                                H
                                                                                                                                                                                                                                                      non-B hepatitis virus; HCV; antisense
                                                                                                                                                                                                                                                                                                                                                                                                                                     2
                                                                                                                                                                                                                                                                                                                                                                                                                                                Pred.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2 T; 0 other;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                         12;
                                                                                                                                                                                                                                                                                                                                                                                                                                               1e+03;
                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB 15;
                                                                                                                                                                                                                                                                                                                                                                                                                                     0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 16;
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                                                                                                                                                                                                                                                                          C Virus genome
                                                                                                                                                                                                                                                                                                                                                                                                                                     0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                compound
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               This oligonucleotide is an example of a preferred antisense composed i.e. it has a base sequence of 15-30 bases which is included within the 49 bases from G at position 127 to C at position 175 or AAQ64913 and which contains at least 7 bases from C at position 1. to C at position 153. The antisense oligonucleotide is useful for inhibiting translation of HCV genes.
AAT90621-650 represent recognition sequences found in the positive (-) strand of the Hepatitis C virus (HCV) RNA. The sequences are recognised by novel ribozymes which inhibit replication, infectivity or gene expression of HCV. The present sequence is located within the 5' UTR. Hairpin ribozymes of the present invention were designed based on sequences adjacent to the GUC sequence recognition feature. The
                                                                                                                   Ribozyme(s) directed against hepatitis C virus treatment of viral infection, and detection of
                                                                                                                                                                                                                                                  27-FEB-1997;
                                                                                                                                                                                                                                                                                                                                               misc_feature
                                                                                                                                                                                                                                                                                                                                                                                            misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                               misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Hepatitis C virus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         treatment;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Hepatitis C virus recognition sequence 32 for ribozyme cleavage.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             07-APR-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAT90622;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAT90622 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 16
                                                                                  Example
                                                                                                                                                      WPI; 1997-470461/43.
                                                                                                                                                                                                     (IMMU-) IMMUSOL INC
                                                                                                                                                                                                                             29-FEB-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   nucleocapsid
                                                                                                                                                                                                                                                                                                 WO9732018-A2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  l Similarity
10; Conser
                                                                                                                                                                               JR,
                                                                                  Page 17;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         HCV infection; HCV contamination; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 sequence; HCV; ribozyme; 5' untranslated region; d coding region; hairpin ribozyme; RNA cleavage;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BP; 1 A; 2 C; 11 G; 2 T; 0 other;
                                                                                                                                                                            Tritz R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RNA;
                                                                               98pp;
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                                                                                                                                                                                                                                                                                                                        "complementary to the CNR2 ribozyme
                                                                                                                                                                                                                                                                                                                                                         "cleavage site corr of the (-) strand,
                                                                                                                                                                                                                                                                                                                                                                                                        "complementary to the CNR2 ribozyme"
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                                                                                                                                                                                                                                                                                                                                   Q
                                                                                English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ΒP
                                                                                                                                                                              PJ,
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2; Mi
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                                                                                                                                                                               Yei
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        12;
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                                                                                                                                                                                                                                                                                                                                                         corresponding rand, counting
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1e+03;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 15;
                                                                                                                                                                               ĭ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;

    for prevention and
HCV contamination of

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                         to position 120 from 3' end"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  175 of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          compound
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RESULT
AAA13439
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                         The present invention describes ribozymes (I) capable of inhibiting CC replication, infectivity or gene expression of a hepatitis C virus (C (HCV), directed to target sequences AAA13434 to AAA13444, AAA13454 and CC AAA13465. (I) have virucide, hepatotropic and antiinflammatory activities. (I), or vectors comprising nucleotide sequences encoding (I), CC are useful for interfering with the replication or gene expression of HCV in a human cells. (I) are useful for diagnosis, prevention and treatment CC of HCV infection or disease in a mammals especially humans. Nucleotide confection in a cell. AAA13401 for preventing hepatitis C viral CC infection in a cell. AAA13401 to AAA13405 represent examples of the Driefest requirements for hairpin ribozyme; AAA13406 and AAA13407 represent PCR primers used in the amplification of the HCV capsid construction of HCV hairpin ribozymes, all these sequences are used in the construction of HCV hairpin ribozymes, all these sequences are used in the examplification of the present invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query
Best L
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ribozymes are directed against conserved regions of the genome and so should be active against many strains of HCV. The ribozymes, when optionally expressed from a vector, cleave the RNA of HCV and so are useful for treatment and prevention of HCV infection. They can also be used to detect HCV contamination of blood or for clinical diagnosis.
                                                                                                                                                                                                                                                                                                                                                  Ribozyme capable of inhibiting replication, expression of hepatitis C virus, useful for hepatitis C virus infection -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAA13439 standard; RNA; 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 16 BP; 1 A; 3 C; 10 G; 2 U; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Hepatitis C virus; HCV; hairpin ribozyme; cleavage; recognition site; infection; virucide; hepatotropic; antiinflammatory; replication inhibitor; gene expression inhibitor; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Hepatitis C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         17-JUL-2000
                                                                                                                                                                                                                                                                                                                   Claim 1; Column 13; 57pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         28-MAR-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Hepatitis C virus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (IMMU-) IMMUSOL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         20-OCT-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          w
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     gggguccuggag 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Yei S,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       virus hairpin ribozyme recognition sequence SEQ ID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     97US-0608862.
97WO-US03304.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         97US-0954210.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Barber JR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 12; DB 18
Pred. No. 1e+03;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Welch PJ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          18;
                                                                                                                                                                                                                                                                                                                                                              infectivity or gene treating or preventing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NO:39
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Sequence

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0 other

21-DEC-1994

(first entry)

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X S X E X
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                                                        AAQ65126
                                                                    RESULT
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Best Local S
Matches 12
                                                                                                                                         Matches
                                                                                                                                                   Query Match
Best Local :
                                                                                                                                                                                                             This oligonucleotide is an example of a preferred antisense compound. i.e. it has a base sequence of 15-30 bases which is included within the 49 bases from G at position 127 to C at position 175 of AAQG64913 and which contains at least 7 bases from C at position 147 to C at position 153. The antisense oligonucleotide is useful for inhibiting translation of HCV genes.
                                                                                                                                                                                                                                                                                                                                                                                                  25-AUG-1992;
03-MAR-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                               23-AUG-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CA2104649-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Hepatitis C Virus; Non-A, non-B hepatitis virus; HCV; antisense; therapy; inhibition; viral protein precursor; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                21-DEC-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAQ65142 standard; DNA; 17 BP
                            AAQ65126;
                                                AAQ65126 standard; DNA;
                                                                                                                                                                                           Sequence 17
                                                                                                                                                                                                                                                                                   Claim 5; Page 164; 262pp; English.
                                                                                                                                                                                                                                                                                                                 Anti:sense oligo:nucleotide(s) complementary to the hepatitis
                                                                                                                                                                                                                                                                                                                                                         Honda Y,
                                                                                                                                                                                                                                                                                                                                                                                                                                                    26-FEB-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Antisense
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAQ65142;
                                                                                                                                                                                                                                                                                                                                                                              (SEKI/) SEKI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           10
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                                                                                                 6 ggggtcctggag
                                                                                                                     1 GGGGUCCUGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 GGGGUCCUGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        gggguccuggag
                                                                                                                                                                                                                                                                                                         genome -
                                                                                                                                         l Similarity
10; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             oligonucleotide
                                                                                                                                                                                                                                                                                                                                                         Seki M,
                                                                                                                                         Conservative
                                                                                                                                                                                           BP; 2 A; 2 C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                  92JP-0248796.
93JP-0042736.
                                                                                                                                                                                                                                                                                                         are useful as antiviral agents
                                                                                                                                                                                                                                                                                                                                                                                                                                93CA-2104649.
                                                                                                                     12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           12
                                                                                                  17
                                                                                                                                                                                                                                                                                                                                                            Yamada
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           100.0%;
                                                                                                                                                  83.3%;
                                                                                                                                                             00.0%;
                                                17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             complementary to Hepatitis C Virus genome
                                                                                                                                                                                           11 G; 2 T; 0 other;
                                                ВÞ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0
                                                                                                                                                   Score 12; DB 1
Pred. No. 1e+03;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 12;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                          Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1e+03;
                                                                                                                                                             DB 15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                           Length 17;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
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                                                                                                                                          0
                                                                                                                                                                                                                                                                compound
                                                                                                                                          Gaps
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AAQ65111
ID AAQ6
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                                                                                                                                                                                                                                                                 RESULT
                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local S
Matches 10
                                                                                                                                                                                                                                                                                                                                                                                                       This oligonucleotide is an example of a preferred antisense componia.e. it has a base sequence of 15-30 bases which is included within the 49 bases from G at position 127 to C at position 175 of AAQ64913 and which contains at least 7 bases from C at position 14 to C at position 153. The antisense oligonucleotide is useful for inhibiting translation of HCV genes.
 Honda Y,
                                                                                                             CA2104649-A
                                                                                                                                                                                                                                             AAQ65111 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              25-AUG-1992;
03-MAR-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Hepatitis C Virus; Non-A, non-B hepatitis virus; HCV; therapy; inhibition; viral protein precursor; ss.
                                       03-MAR-1993;
                                                                      23-AUG-1993;
                                                                                         26-FEB-1994.
                                                                                                                                 Synthetic
                                                                                                                                                   therapy; inhibition;
                                                                                                                                                                                 Antisense oligonucleotide complementary to
                                                                                                                                                                                                      21-DEC-1994
                                                                                                                                                                                                                                                                                                                                                                                       Sequence 17 BP; 2 A; 2 C; 11 G; 2 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Anti:sense oligo:nucleotide(s) complementary to the hepatitis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Honda Y,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           23-AUG-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                26-FEB-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Antisense
                   (SEKI/) SEKI M.
                                                 25-AUG-1992;
                                                                                                                                                             Hepatitis C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (SEKI/) SEKI M.
                                                                                                                                                                                                                                                                 12
                                                                                                                                                                                                                                                                                                                                               Local Similarity
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                                                                                                                                                                                                                                                                                                                 1 GGGGUCCUGGAG 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1994-151836/19
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|ggggtcctggag 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                <u>ن</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Page 157; 262pp; English.
Seki M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Seki M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        oligonucleotide
                                                                                                                                                              Virus; Non-A,
                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                     (first entry)
                                        92JP-0248796.
93JP-0042736.
                                                                      93CA-2104649
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     are useful as antiviral agents
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              92JP-0248796
93JP-0042736
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           93CA-2104649
                                                                                                                                                                                                                                             DNA; 17
 Yamada
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Yamada
                                                                                                                                                                                                                                                                                                                                               100.0%;
                                                                                                                                                    viral
                                                                                                                                                              non-B hepatitis virus;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       complementary to Hepatitis C Virus genome
                                                                                                                                                   protein
                                                                                                                                                                                                                                             ВP
                                                                                                                                                                                                                                                                                                                                     2;
                                                                                                                                                                                                                                                                                                                                              Score 12; DB 1
Pred. No. 1e+03;
                                                                                                                                                                                                                                                                                                                                      Mismatches
                                                                                                                                                    precursor;
                                                                                                                                                                                                                                                                                                                                                        DB 15;
                                                                                                                                                                                 Hepatitis C Virus genome
                                                                                                                                                                                                                                                                                                                                      0
                                                                                                                                                              HCV;
                                                                                                                                                                                                                                                                                                                                                         Length 17
                                                                                                                                                                                                                                                                                                                                      Indels
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                                                                                                                                                                                                                                                                                                                                     0;
                                                                                                                                                                                                                                                                                                                                                                                                                                         175 of
                                                                                                                                                                                                                                                                                                                                                                                                                                                            compound
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AAQ65143
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Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  This oligonucleotide is an example of a preferred antisense compound i.e. it has a base sequence of 15-30 bases which is included within the 49 bases from G at position 127 to C at position 175 of AAQ64913 and which contains at least 7 bases from C at position 147 to C at position 153. The antisense oligonucleotide is useful for inhibiting translation of HCV genes.
                    This oligonucleotide is an example of a preferred antisense compound i.e. it has a base sequence of 15-30 bases which is included within the 49 bases from G at position 127 to C at position 175 of AAQ64913 and which contains at least 7 bases from C at position 147 to C at position 153. The antisense oligonucleotide is useful for inhibiting translation of HCV genes.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI;
                                                                                                                                 Anti:sense oligo:nucleotide(s) complementary to the hepatitis C virus genome - are useful as antiviral agents
                                                                                                                                                                                                                                             25-AUG-1992;
03-MAR-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAQ65143;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAQ65143 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Claim 5; Page 150; 262pp; English
 Sequence 18
                                                                                                           Claim
                                                                                                                                                                       WPI; 1994-151836/19.
                                                                                                                                                                                                                                                                                23-AUG-1993;
                                                                                                                                                                                                                                                                                                        26-FEB-1994
                                                                                                                                                                                                                                                                                                                                                       Synthetic
                                                                                                                                                                                                                                                                                                                                                                                           Hepatitis C
                                                                                                                                                                                                                                                                                                                                                                                                                Antisense oligonucleotide complementary to
                                                                                                                                                                                                                                                                                                                                                                                                                                           21-DEC-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Anti:sense oligo:nucleotide(s) complementary to the hepatitis C
                                                                                                                                                                                               Honda
                                                                                                                                                                                                                     (SEKI/) SEKI M.
                                                                                                                                                                                                                                                                                                                                                                              therapy; inhibition; viral protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4 ggggtcctggag 15
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                                                                                                          5; Page 164; 262pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 genome -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity
                                                                                                                                                                                              Seki M,
  BP;
                                                                                                                                                                                                                                                                                                                                                                                         Virus; Non-A, non-B hepatitis virus;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BP; 1 A; 3 C; 11 G; 2 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                are useful as antiviral agents
                                                                                                                                                                                                                                             92JP-0248796
93JP-0042736
                                                                                                                                                                                                                                                                                93CA-2104649
2 A; 2 C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DNA;
                                                                                                                                                                                              Yamada
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                100.0%;
83.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          18
12 G;
                                                                                                                                                                                              Ħ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ΒP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 12;
Pred. No.
2 T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                                                                                                                                                                                              precursor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          12;
 0
 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1e+03;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 15;
                                                                                                                                                                                                                                                                                                                                                                                                                 Hepatitis C Virus
                                                                                                                                                                                                                                                                                                                                                                               SS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0,
                                                                                                                                                                                                                                                                                                                                                                                         HCV;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                compound
                                                                                                                                                                                                                                                                                                                                                                                                                 genome.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0;
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Query Match

100.0%;

Score

12;

DB

15;

Length

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RESULT 1
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 Hepatitis C Virus; Non-A, non-B hepatitis virus; HCV; antisense;
                                                                                                 AAQ65112 standard; DNA; 18 BP.
                                                                                                                                                                                                                                                                      Sequence 18 BP; 2 A; 2 C; 12 G; 2 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                        Anti:sense oligo:nucleotide(s) complementary to the hepatitis C virus genome - are useful as antiviral agents
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03-MAR-1993;
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                        Antisense oligonucleotide complementary to Hepatitis C Virus genome
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                                                (first entry)
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                                                                                                         Sequence 18 BP; 2 A; 3 C; 11 G; 2 T; 0 other;
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

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AF282631 Hepatitis	170986 Sequence 10	I44581 Sequence 10	I82871 Sequence 50	AR097188 Sequence	AR064935 Sequence	AR004396 Sequence	AR106359 Sequence	Description		

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Cha, T., Beall, E.,
HCV genomic services
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Urdea, M.S., Horn, T., Chang, C., Warner, B. and Fultz, T.J.
Nucleic acid hybridization assays employing large comb-type
branched polynucleotides
Patent: US 5849481-A 60 15-DEC-1998;
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Sheridan,P., Chang,C., Running,J. and Urdea,M.S.
Nucleic acid probes immobilized on polystyrene s
Patent: US 5747244-A 50 05-MAY-1998;
Location/Qualifiers
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182871
182871.1
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Sheridan, P., Chang, C., Running, J. and Urdea, M.S
Process for immobilizing nucleic acid probes on
                                                                                                                                                                                                     I44581 46 bp
Sequence 10 from patent
I44581
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                                                                                                  Patent: US 5635352-A 10 03-JUN-1997;
                                                                                                                    1 (bases 1 to 46)
Urdea,M.S., Fultz,T., Warner,B.D. and Collins,M.
Solution phase nucleic acid sandwich assays having reduced
                                                                                                                                                              Unknown
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                                                                                                                                                                                                                                                                                                                                                                                                                    Patent: US 5712383-A 50 27-JAN-1998;
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17 c 11 a
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13 c 6 g
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13 c 6 g
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Location/Qualifiers
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Hepatitis C virus i
sequence.
AF282631
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Urdea, M.S., Fultz, T., Warner, B.D. and Collins, M.
Solution phase nucleic acid sandwich assays having reduced
background noise and kits therefor
Patent: US 5681697-A 10 28-OCT-1997;
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Harris, K.A. and Teo, C.G.
Diversity of Hepatitis C Virus Quasispecies Evaluated
Gradient Gel Electrophoresis
Clin. Diagn. Lab. Immunol. 8 (1), 62-73 (2001)
                                                                                                                              Harris, K.A. and Teo, C.G.
Direct Submission
Submitted (27-JWR-2000) Hepatitis
Gentral Public Health Laboratory,
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Hepatitis C virus
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                                           /organism="Hepatitis C v
/isolate="H069"
/db_xref="taxon:11103"
/clone="I"
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Colindale Avenue, London NW9
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Harris, K.A. and Teo, C.G.
Diversity of Hepatitis C Virus Quasispecies Evaluated
Gradient Gel Electrophoresis
Clin. Diagn. Lab. Immunol. 8 (1), 62-73 (2001)
                                                                                                                                          sequence.
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Submitted (27-JUN-2000) Hepatitis
Central Public Health Laboratory,
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Harris, K.A. and Teo, C.G.
Diversity of Hepatitis C Virus Quasispecies Evaluated
Gradient Gel Electrophoresis
Clin. Diagn. Lab. Immunol. 8 (1), 62-73 (2001)
                                                                                Hepatitis C virus.
Hepatitis C virus
Viruses; sRNA positive-strand viruses,
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Hepatitis C virus
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/isolate="H069"
/db_xref="taxon:11103"
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1 (bases 1 to 139)

Harris,K.A. and Teo,C.G.

Diversity of Hepatitis C Virus Quasispecies Evaluated Gradient Gel Electrophoresis

Gradient Gel Electrophoresis (1), 62-73 (2001)
                                                                                                                                                                                                                                     Direct Submission
Submitted (27-JUN-2000) Hepatitis and Retrovirus Laboratory,
Central Public Health Laboratory, 61 Colindale Avenue, London
5HT, UK
                                                                                                                                                                                                                                                                                                                                                                                        Hepatitis C virus.
Hepatitis C virus
Viruse; sRRNA positive-strand viruses, no DNA stage; Flaviviridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 sequence.
AF282634
                                                 16;
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Direct Submission
Submitted (27-JUN-2000) Hepatitis and Retrovirus Laboratory,
Central Public Health Laboratory, 61 Colindale Avenue, London NW9
                                                                                                                                                                                                                                                                                     2 (bases 1 to 139)
Harris, K.A. and Teo, C.G.
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16; Conserv
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/isolate="H071"
/db_xref="taxon:11103"
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1, .139
                                                                                                                          /note="5' non-coding region"
38 c 43 g 31 t
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/isolate="H071"
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80.0%; Pred: No.
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No. 0.46;
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AF282637/c
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Best Local
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AF282637
                                                                  Central
5HT, UK
                                                                                                                                       Harris, K.A. and Teo.C.G.

Diversity of Hepatitis C Virus Quasispecies Evaluated

Gradient Gel Electrophoresis

Gradient Lab. Immunol. 8 (1), 62-73 (2001)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 (bases 1 to 139)
Harris,K.A. and Teo,C.G.
Diversity of Hepatitis C Virus Quasispecies Evaluated
Gradient Gel Electrophoresis
                                                                             Harris, K.A. and Teo, C.G.
Direct Submission
Submitted (27-JUN-2000) Hepatitis
Central Public Health Laboratory,
                                                                                                                                                                                                                                                                                                                                                                                                          l Similarity
16; Conserv
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Direct Submission
Submitted (27-JUN-2000) Hepatitis
Central Public Health Laboratory,
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Hepatitis C virus
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Hepatitis C
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Hepatitis C virus
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/organism="Hepatitis C
/isolate="H075"
/db_xref="taxon:11103"
/clone="III"
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37 c 44 g 32 t
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/isolate="H075"
/db_xref="taxon:11103"
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virus
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                                                                              and Retrovirus Laboratory,
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61 Colindale Avenue, London NW9
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AF282639/c
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Query Match
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                                                                       sequence.
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Submitted (27-JUN-2000) Hepatitis
Central Public Health Laboratory,
5HT, UK
                                                                                                                                                                                                                                                                                                                                                                                                                                          Harris, K.A. and Teo, C.G.
Diversity of Hepatitis C Vi
Gradient Gel Electrophores
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             Hepatitis C virus.
Hepatitis C virus
Viruses; ssRNA positive-strand
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Hepatitis C virus
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        Hepacivirus.
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Harris, K.A. and Teo, C.G.
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/note="5' /
36 c
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/isolate="H075"
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1 to 139)
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isolate H858
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Pred. No. 0.46;
4; Mismatches
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                   viruses,
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                    DNA stage;
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                    Flaviviridae;
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Search completed: August 8, 2001, 16:01:28 Job time: 5802 sec
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TITLE
                                                                                                                                                       Query Match 100.0%; Score 20; DB 58; Length 139; Best Local Similarity 80.0%; Pred. No. 0.46; Matches 16; Conservative 4; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                 misc_feature
                                                                                                                                                                                                                                                                                                                                                                                         source
                                                                                     2 (bases 1 to 139)
Harris,K.A. and Teo,C.G.
Direct Submission
Submitted (27-JUN-2000) Hepatitis and Retrovirus Laboratory,
Central Public Health Laboratory, 61 Colindale Avenue, London NW9
5HT, UK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Harris,K.A. and Teo,C.G.

Diversity of Hepatitis C Virus Quasispecies Evaluated by Denaturing Gradient Gel Electrophoresis Clin. Diagn. Lab. Immunol. 8 (1), 62-73 (2001) 11139197
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                                                                                                                                                                                                                                                           /organism="Hepatitis C virus"
/Isolate="H858"
/Isolate="H858"
/db_xref='taxon:11103"
/clone="I"
/clone="I"
1. 139
/note="5' non-coding region"
a 37 c 44 g 32 t
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Thu Aug
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specificity is high because the relative proportion of the internal detection region is increased with respect to the total amplicon length, allowing better differentiation between (viral) subtypes. Also short amplicons are less likely to undergo non-specific hybridization, so background is low, and short RNA sequences are more stable, with reduced tendency to form secondary structures. AAX23968-69 and AAX24035-37 are
Sequence 12 BP; 2 A; 7 C; 2 G; 1 T; 0 other;
                                                                                                              PCR primers and probes used in the method of the invention.
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Matches
            Query Match
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          Local Similarity
  10;
 Conservative
         100.0%;
Score 12; DB 20
Pred. No. 1e+03;
2; Mismatches
                   DB 20;
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0;

Indels

0,

Gaps

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Length 12;

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RESULT 4
AAQ70177/c
AAQ70177 standard; RNA; 14 BP
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12 GGGGTCCTGGAG 1 1 GGGGUCCUGGAG

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Hepatitis C virus 5'-UTR antisense oligonucleotide target (A).
                                                                                 04-OCT-1994
                                                                                     AAQ70177;
                                                                                (first entry)
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5'-untranslated region; ss. Hepatitis C virus; HCV; non-A, non-B hepatitis virus; NANBHV; antisense oligonucleotide; translation inhibition; therapy;

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WO9405813-A.
                              Hepatitis C Virus.
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10-SEP-1992;
14-APR-1993;
                                      10-SEP-1993;
                                                                17-MAR-1994.
92US-0945289.
93JP-0087195.
                                      93WO-JP01293.
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(KAGA) CHEMO SERO THERAPEUTIC RES INST. ISIS PHARM INC. MOCHIDA PHARM CO LTD

Hoshiko Anderson KP, ,× Nakatake H, Eto T, Furukawa S, Ha H, Nishihara T, Hamada F, T, Nozaki Hanecak C;

WPI; 1994-101217/12.

diseases Anti:sense oligo:nucleotide(s) complementary to hepatitis C viral genome - useful for inhibiting HCV replication, to treat related

Claim 16; Page 71; 91pp; English.

Oligonucleotides which are complementary to part of the hepatitis C virus genomic or messenger RNA are claimed. AAQ70177 is a preferred target sequence which is present in the 5'-UTR of the HCV genome.

Sequence 14 BP; 2 A; 8 C; 3 G; 1 U; 0 other;

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Qγ
                                Query Match
Best Local
                          Matches
GGGGUCCUGGAG 12
                                 Similarity
                         Conservative
                                100.0%;
                        Score 12; DB 1
Pred. No. 1e+03;
2; Mismatches
                                       DB 15;
                        0;
                                        Length 14;
                        Indels
                        0;
                       Gaps
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RESULT
AAQ65140
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AAQ65140;
                      AAQ65140 standard; DNA; 15 BP
                                                                                   14 GGGGTCCTGGAG
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Hepatitis C Virus; Non-A, non-B hepatitis virus; HCV; antisense; therapy; inhibition; viral protein precursor; ss. Antisense oligonucleotide complementary to Hepatitis C Virus genome.

21-DEC-1994

(first entry)

Synthetic.

ΧX

23-AUG-1993; 26-FEB-1994 CA2104649-A. 93CA-2104649

PD XXX PR 03-MAR-1993; 25-AUG-1992; 92JP-0248796. 93JP-0042736.

(SEKI/) SEKI M

Honda Y, Seki M, Yamada Ħ

WPI; 1994-151836/19.

Anti:sense oligo:nucleotide(s) complementary to the hepatitis virus genome - are useful as antiviral agents a

Claim 5; Page 163; 262pp; English.

This oligonucleotide is an example of a preferred antisense compound i.e. it has a base sequence of 15-30 bases which is included within the 49 bases from G at position 127 to C at position 175 of AAQ64913 and which contains at least 7 bases from C at position 147 to C at position 153. The antisense oligonucleotide is useful for inhibiting translation of HCV genes.

Sequence 15 BP; 1 A; 2 C; 10 G; 2 T; 0 other;

Query Match Best Local Matches Local Similarity Conservative 100.0%; 83.3%; 2; Score 12; DB 1 Pred. No. 1e+03; Mismatches DB 15; 0; Length 15; 0; Gaps 0;

RESULT σ Вþ QY

ggggtcctggag 15 GGGGUCCUGGAG 12

AAQ65141 AAQ65141 standard; DNA; 16 BP

AAQ65141;

(first entry)

Antisense oligonucleotide complementary to Hepatitis C Virus genome

therapy; inhibition; viral protein precursor; ss Hepatitis C Virus; Non-A, non-B hepatitis virus; HCV;

Synthetic.

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CA2104649-A

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AF282642 AF282643

AF282632 AF282633 AF282634

AY003925 AY003925 AY003925 AY003928 AY003929 AY003939 AY003933 AY003933 AY003935 AY003935 AY003935 AY003935

AY00393 AY00393 AY003935 AY003935 AY003937 AY003939 AY003939 AY003940 AY003943

AY003944 AY003945 AY004013

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AR004396
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Sheridan, P., Chang, C., Running, J. and Urdea, M.S.
Nucleic acid probes immobilized on polystyrene s
Patent: US 5747244-A 50 05-MAY-1998;
1 (bases 1 to 33)
Cha,T., Beall,E., Irvi
HCV genomic sequences
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16; Conserv
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Patent: US 5849481-A 60 15-DEC-1998;
Location/Qualifiers
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Urdea,M.S., Horn,T., Chang,C., Warner,B. and Fultz,T.J.
Nucleic acid hybridization assays employing large comb-type
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ine, B., Kolberg, J. and Urdea, M.S. for diagnostics and therapeutics
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REFERENCE AUTHORS TITLE

1 (bases 1 to 27) Kay,W.A. and Lieber,A. Ribozymes for treating hepatitis C Patent: US 6107028-A 21 22-AUG-2000;

Location/Qualifiers /organism="unknown"
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AR106359 27 bp DNA Sequence 21 from patent US AR106359

6107028.

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AR106359.1 GI:12820889

KEYWORDS

SOURCE ORGANISM

Unclassified. Unknown. Unknown.

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Patent:

US 6071693-A 126 06-JUN-2000;

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Sheridan, P., Chang
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Ordea, M.S., Fultz, T., Warner, B.D. and Collins,
                                                                                                                                                                                                              144581
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                                                                                                                 Solution phase nucleic acid sandwich
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Diversity of Hepatitis C Virus Quasispecies Evaluated Gradient Gel Electrophoresis Clin. Diagn. Lab. Immunol. 8 (1), 62-73 (2001) 11139197
                                                                                                                                                                                                                                                                                                                                          Hepatitis C virus
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Harris, K.A. and Teo, C.G.\
Direct Submission 2000) Hepatitis
Submitted (27-JUN-2000) Hepatitis
Central Public Health Laboratory,
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Hepatitis C virus
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17 c 11 g
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                                          /db_xref="taxon:11103"
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pred. No. 0.45;
4; Mismatches
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